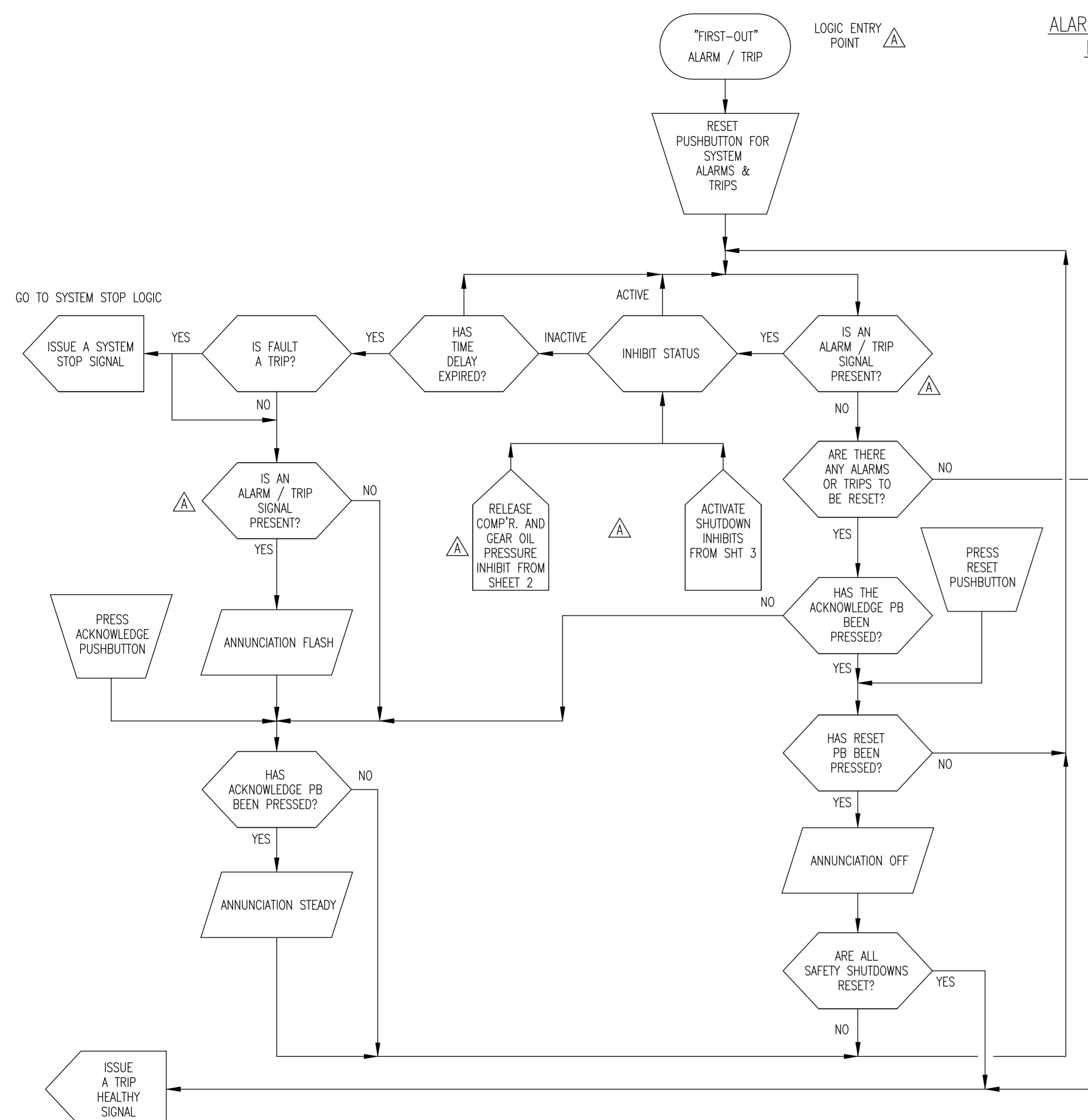
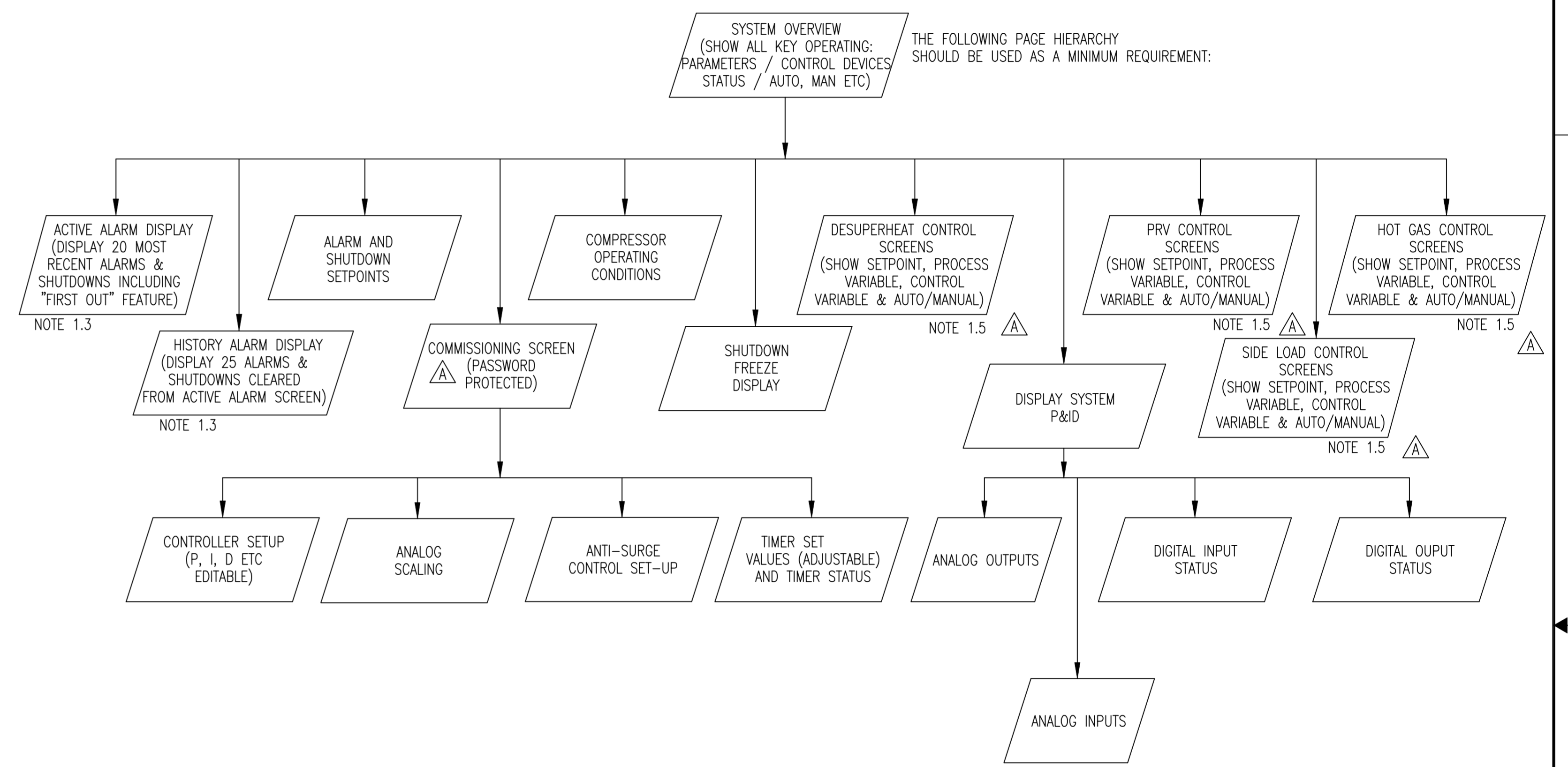


REVISION HISTORY							
ZONE	REV	ECN	DESCRIPTION	DATE	DR	CHK	APPD
.	A	.	REVISIONS PER CUSTOMER AND ENGINEERING REVIEW REFER TO REVISION TRIANGLE /A	5/22/09	TTP	HWK	TTP
.	B	.	REVISIONS PER FAT AND ENGINEERING REVIEW REFER TO REVISION TRIANGLE /B	12/21/09	TTP	HWK	TTP
.	C	.	AS-BUILT CHANGES FOR TRAIN 1 REFER TO REVISION TRIANGLE /C	2/22/10	JES	TTP	TTP
.	D	.	REVISED TAG NUMBERS "1231" TO READ "1331 AND ADDED "TRAIN 2" ABOVE TITLE BLOCK ALSO REVISED NOTE 1.6 & 1.7	3/22/10	JES	TTP	TTP

ALARM & TRIP LOGIC



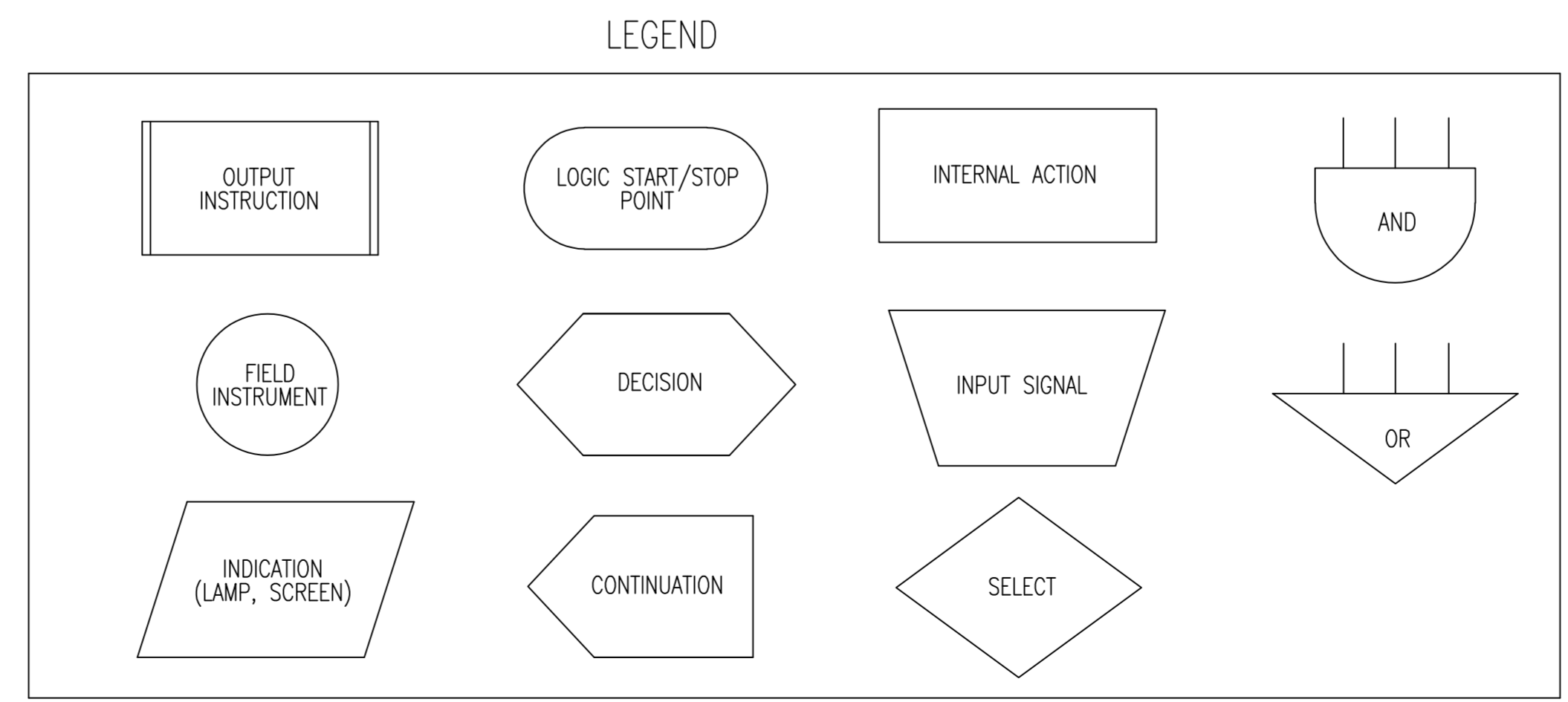
VIDEO DISPLAY REQUIREMENTS



GO TO SYSTEM START LOGIC (SHEET 2)

- NOTE:
- 1.1) ALL ANALOG INPUTS REQUIRE FAULT DETECTION FOR UNDER/OVER RANGE SIGNAL AND OPEN CIRCUIT.
 - 1.2) PROVISIONS TO OVERRIDE A FEW INDIVIDUAL SIGNALS AT SHUTDOWN, TO PREVENT NUISANCE ALARMS TO BE PROVIDED.
 - 1.3) ACTIVE ALARM SCREEN MUST DISPLAY 20 ACTIVE ALARMS AND SHUTDOWNS. WHEN THE ALARM OR SHUTDOWN IS CLEARED, THE ALARM OR SHUTDOWN IS MOVED TO ALARM HISTORY SCREEN. THIS SCREEN TO DISPLAY 25 OF THE LAST ALARMS OR SHUTDOWNS. THE "FIRST OUT" SHUTDOWN MUST APPEAR ON THE ACTIVE ALARM SCREEN.
 - 1.4) ALARM & SHUTDOWN DELAYS ARE TO BE IN ACCORDANCE WITH AES 1300.08 UNLESS OTHERWISE INDICATED. LEVEL ALARMS AND SHUTDOWNS ARE 5 SECONDS.
 - 1.5) MANUAL MODE AVAILABLE AT LEVEL 2 AND ABOVE SECURITY ONLY, CAPACITY CONTROL SETPOINTS AVAILABLE AT LEVEL 1

- 1.6) TAG NUMBERS SHOWN ARE FOR TRAIN 2 ITEM 8000, LETTER "A" IN TAG NUMBER SHALL BE SEQUENCED "1331B" THRU "1331E" FOR ITEMS 9000 THRU 12000.
- 1.7) - DELETE -



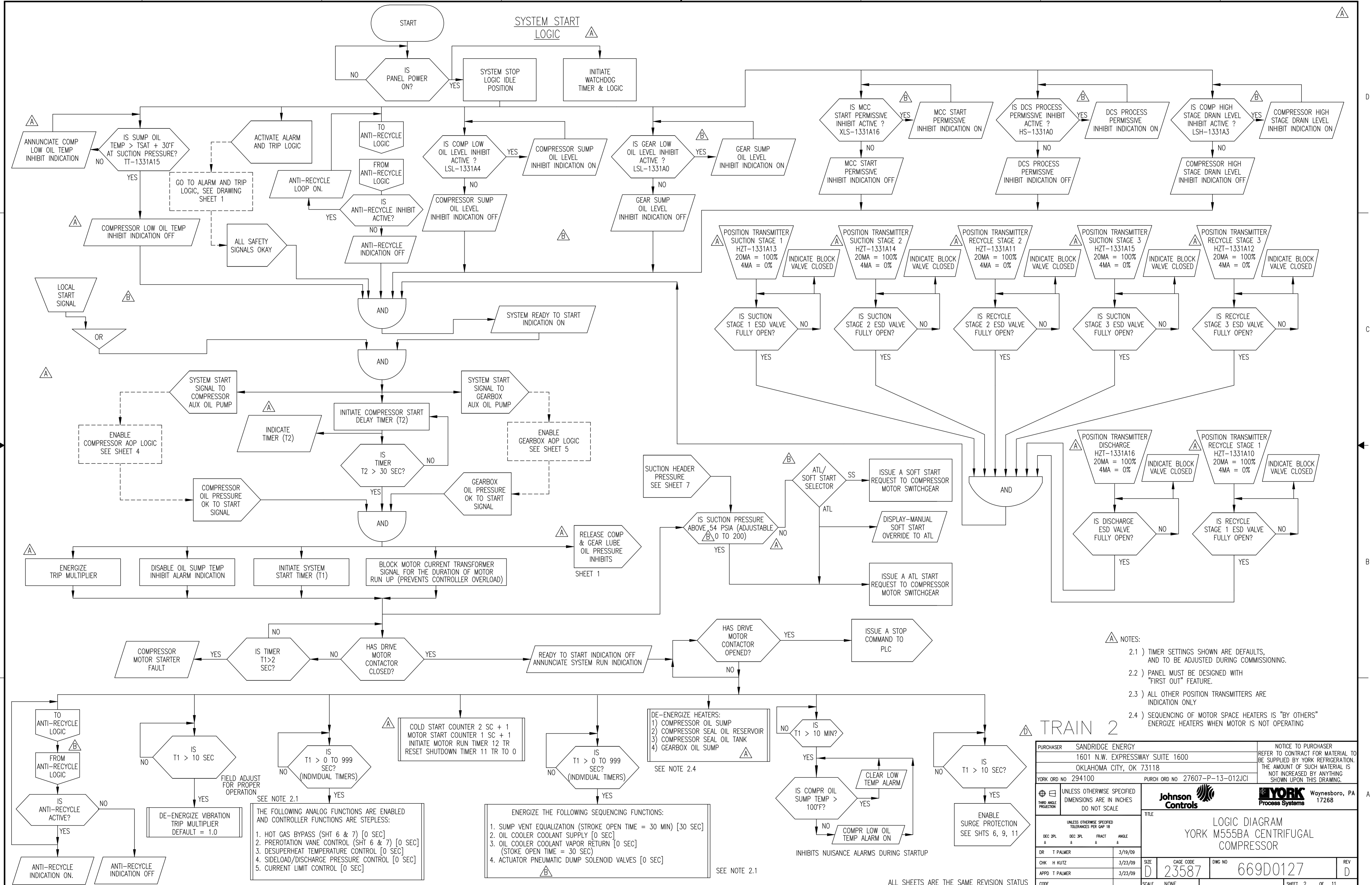
THIS DRAWING CERTIFIED FOR SANDRIDGE ENERGY ORDER NO. 294100 YORK REFRIGERATION Waynesboro, PA PER T. PALMER DATE 5/7/09

TRAIN 2

PURCHASER SANDRIDGE ENERGY 1601 N.W. EXPRESSWAY SUITE 1600 OKLAHOMA CITY, OK 73118		NOTICE TO PURCHASER REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
YORK ORD NO 294100		PURCH ORD NO 27607-P-13-012JCI	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE		YORK Process Systems Waynesboro, PA 17268	
UNLESS OTHERWISE SPECIFIED TOLERANCES PER QWP 18		TITLE LOGIC DIAGRAM YORK M555BA CENTRIFUGAL COMPRESSOR	
DR T PALMER	3/19/09	SIZE D	CAGE CODE 23587
CHK H KUTZ	3/23/09	DWG NO	669D0127
APPD T PALMER	3/23/09	REV	D
CODE		SCALE NONE	SHEET 1 OF 11

ALL SHEETS ARE THE SAME REVISION STATUS

SYSTEM START LOGIC

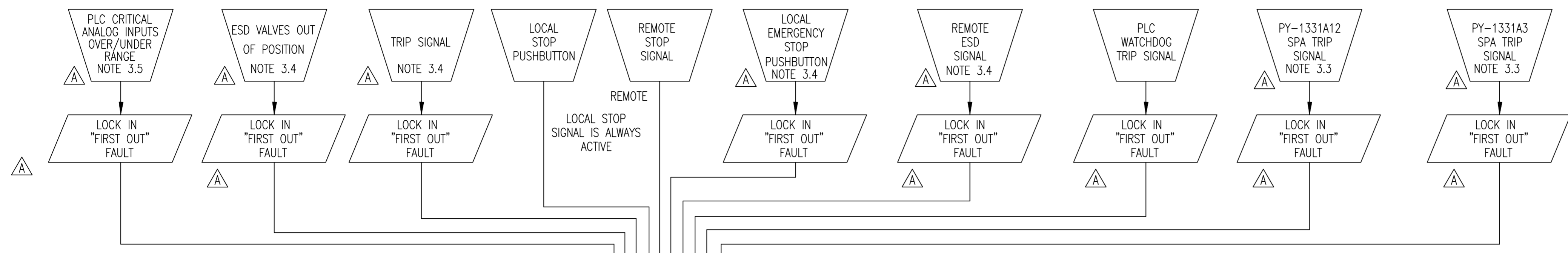


- NOTES:
- 2.1) TIMER SETTINGS SHOWN ARE DEFAULTS, AND TO BE ADJUSTED DURING COMMISSIONING.
 - 2.2) PANEL MUST BE DESIGNED WITH "FIRST OUT" FEATURE.
 - 2.3) ALL OTHER POSITION TRANSMITTERS ARE INDICATION ONLY
 - 2.4) SEQUENCING OF MOTOR SPACE HEATERS IS "BY OTHERS" ENERGIZE HEATERS WHEN MOTOR IS NOT OPERATING

TRAIN 2

PURCHASER SANDRIDGE ENERGY 1601 N.W. EXPRESSWAY SUITE 1600 OKLAHOMA CITY, OK 73118		NOTICE TO PURCHASER REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
YORK ORD NO 294100		PURCH ORD NO 27607-P-13-012JCI	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE		YORK Process Systems Waynesboro, PA 17268	
TITLE LOGIC DIAGRAM YORK M555BA CENTRIFUGAL COMPRESSOR			
DR T PALMER	3/19/09	SIZE D	CAGE CODE 23587
CHK H KUTZ	3/23/09	DWG NO 669D0127	REV D
APPD T PALMER	3/23/09	SCALE NONE	SHEET 2 OF 11

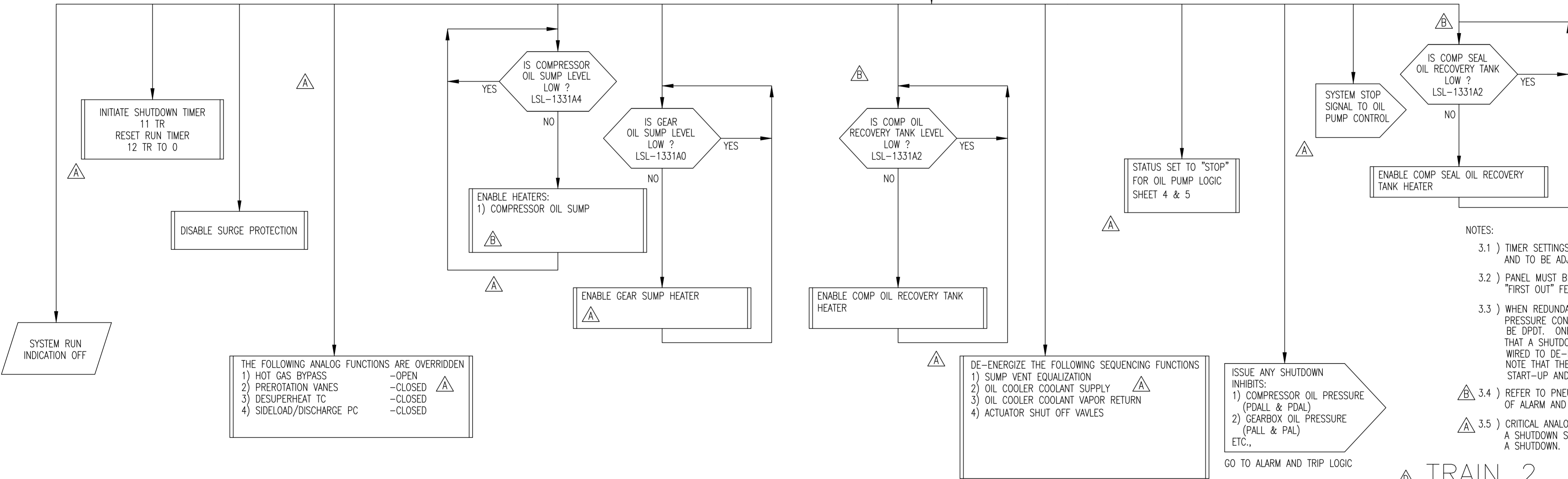
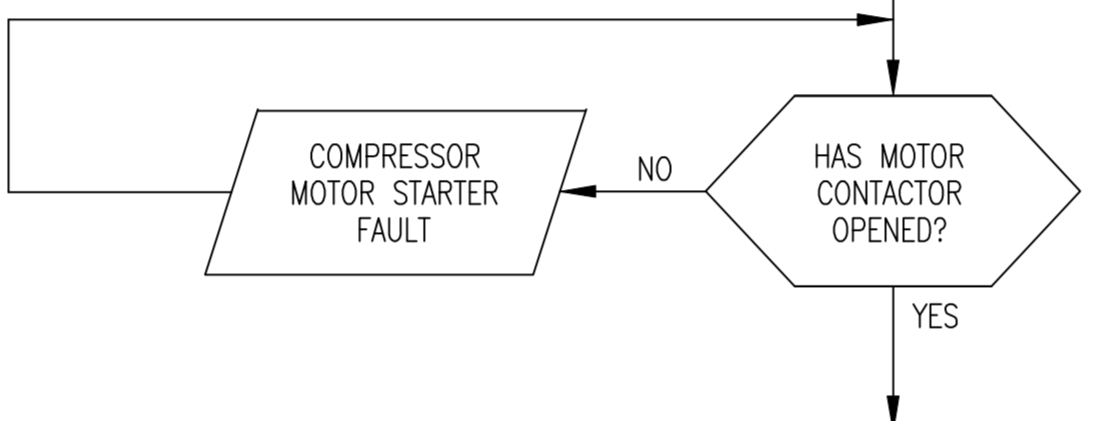
SYSTEM STOP LOGIC



STOP SIGNAL:
ANY STOP OR TRIP SIGNAL BREAKS
AND UNLATCHES THE TRIP CHAIN.
(SEE NOTE 3.2)

ISSUE A STOP REQUEST
TO COMPRESSOR MOTOR
SWITCHGEAR

WAIT 0-2
SECONDS
NOTE 3.1



THE FOLLOWING ANALOG FUNCTIONS ARE OVERRIDDEN

1) HOT GAS BYPASS	-OPEN
2) PREROTATION VANES	-CLOSED
3) DESUPERHEAT TC	-CLOSED
4) SIDELOAD/DISCHARGE PC	-CLOSED

DE-ENERGIZE THE FOLLOWING SEQUENCING FUNCTIONS

- SUMP VENT EQUALIZATION
- OIL COOLER COOLANT SUPPLY
- OIL COOLER COOLANT VAPOR RETURN
- ACTUATOR SHUT OFF VAVLES

ISSUE ANY SHUTDOWN
INHIBITS:

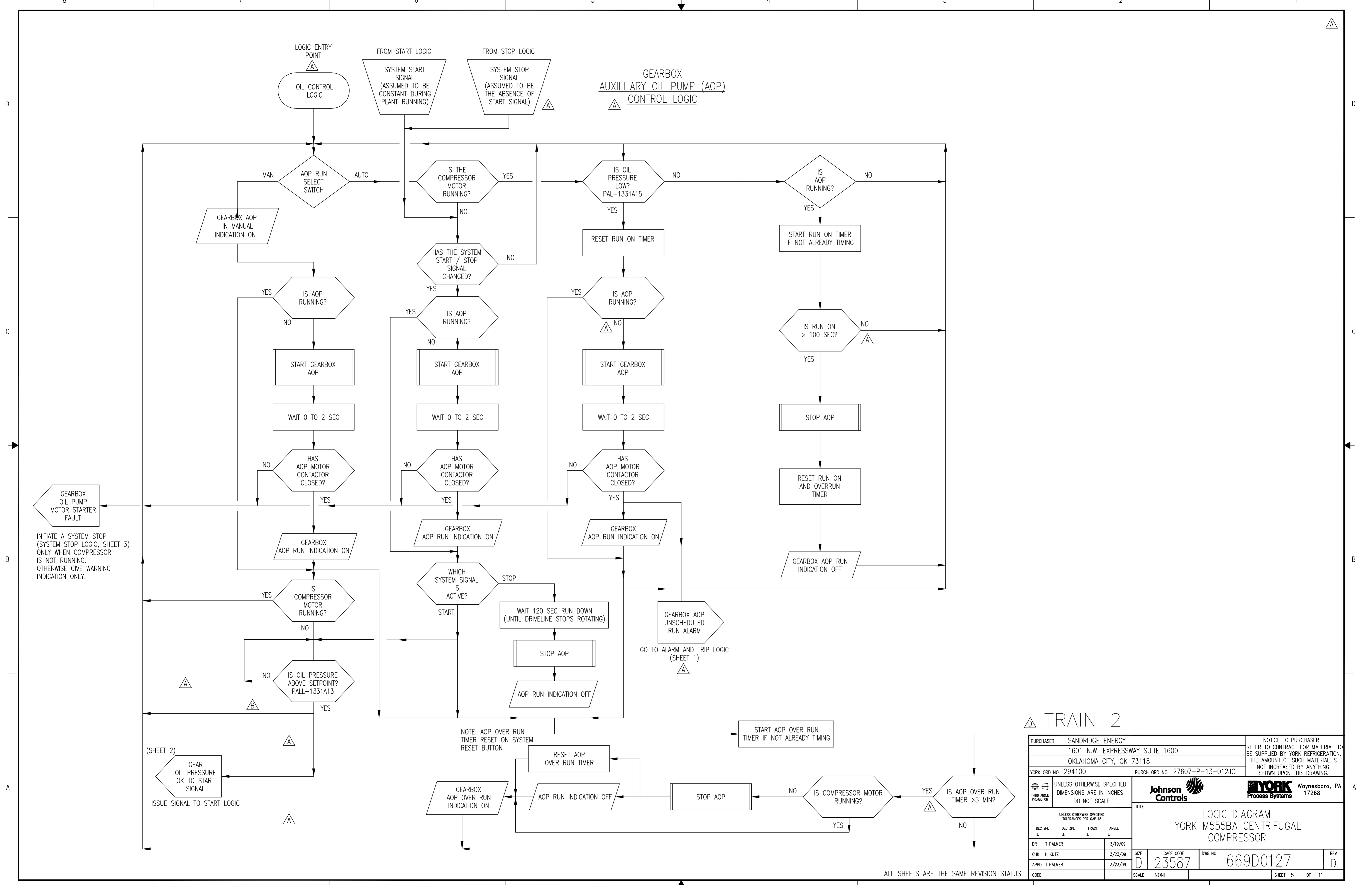
- COMPRESSOR OIL PRESSURE (PDALL & PDAL)
- GEARBOX OIL PRESSURE (PALL & PAL) ETC.,

GO TO ALARM AND TRIP LOGIC

- NOTES:
- 3.1) TIMER SETTINGS SHOWN ARE DEFAULTS, AND TO BE ADJUSTED DURING COMMISSIONING.
 - 3.2) PANEL MUST BE DESIGNED WITH "FIRST OUT" FEATURE.
 - 3.3) WHEN REDUNDANT HARD WIRED OIL FAILURE & DISCHARGE PRESSURE CONTACTS ARE FURNISHED, THE CONTACTS MUST BE DPDT. ONE CONTACT MUST BE WIRED TO THE PLC TO ADVISE THE PLC THAT A SHUTDOWN HAS OCCURRED. THE SECOND CONTACT MUST BE WIRED TO DE-ENERGIZE THE MOTOR STARTER. NOTE THAT THE OIL FAILURE CONTACTS MUST BE BYPASSED DURING START-UP AND SHUTDOWN.
 - 3.4) REFER TO PNEUMATIC ELECTRIC DIAGRAM FOR SUMMARY OF ALARM AND SHUTDOWN INPUTS
 - 3.5) CRITICAL ANALOG INPUTS CONSIST OF TRANSMITTER SIGNALS ASSOCIATED WITH A SHUTDOWN SHOWN ON PROJECT P&ID. LOSS OF ANY SIGNAL CONSTITUTES A SHUTDOWN.

TRAIN 2

PURCHASER	SANDRIDGE ENERGY	NOTICE TO PURCHASER
	1601 N.W. EXPRESSWAY SUITE 1600	REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.
	OKLAHOMA CITY, OK 73118	
YORK ORD NO	294100	PURCH ORD NO 27607-P-13-012JCI
THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED TOLERANCES FOR QWP 18 DO NOT SCALE	Johnson Controls YORK Process Systems Waynesboro, PA 17268
UNLESS OTHERWISE SPECIFIED TOLERANCES FOR QWP 18		TITLE
DEC 2PL ±	DEC 3PL ±	FRACT ±
DR T PALMER		3/19/09
CHK H KUITZ		3/23/09
APPD T PALMER		3/23/09
SIZE	CAGE CODE	DWG NO
D	23587	669D0127
SCALE	NONE	SHEET 3 OF 11



TRAIN 2

PURCHASER SANDRIDGE ENERGY		NOTICE TO PURCHASER	
1601 N.W. EXPRESSWAY SUITE 1600		REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
OKLAHOMA CITY, OK 73118		YORK Process Systems	
YORK ORD NO 294100	PURCH ORD NO 27607-P-13-012JCI	Waynesboro, PA 17268	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE			
UNLESS OTHERWISE SPECIFIED TOLERANCES PER QWP-18			
DR T PALMER	3/19/09	TITLE	
CHK H KUITZ	3/23/09	LOGIC DIAGRAM	
APPD T PALMER	3/23/09	YORK M555BA CENTRIFUGAL COMPRESSOR	
CODE	SCALE NONE	SIZE D	REV D
		CAGE CODE 23587	DWG NO 669D0127
			SHEET 5 OF 11

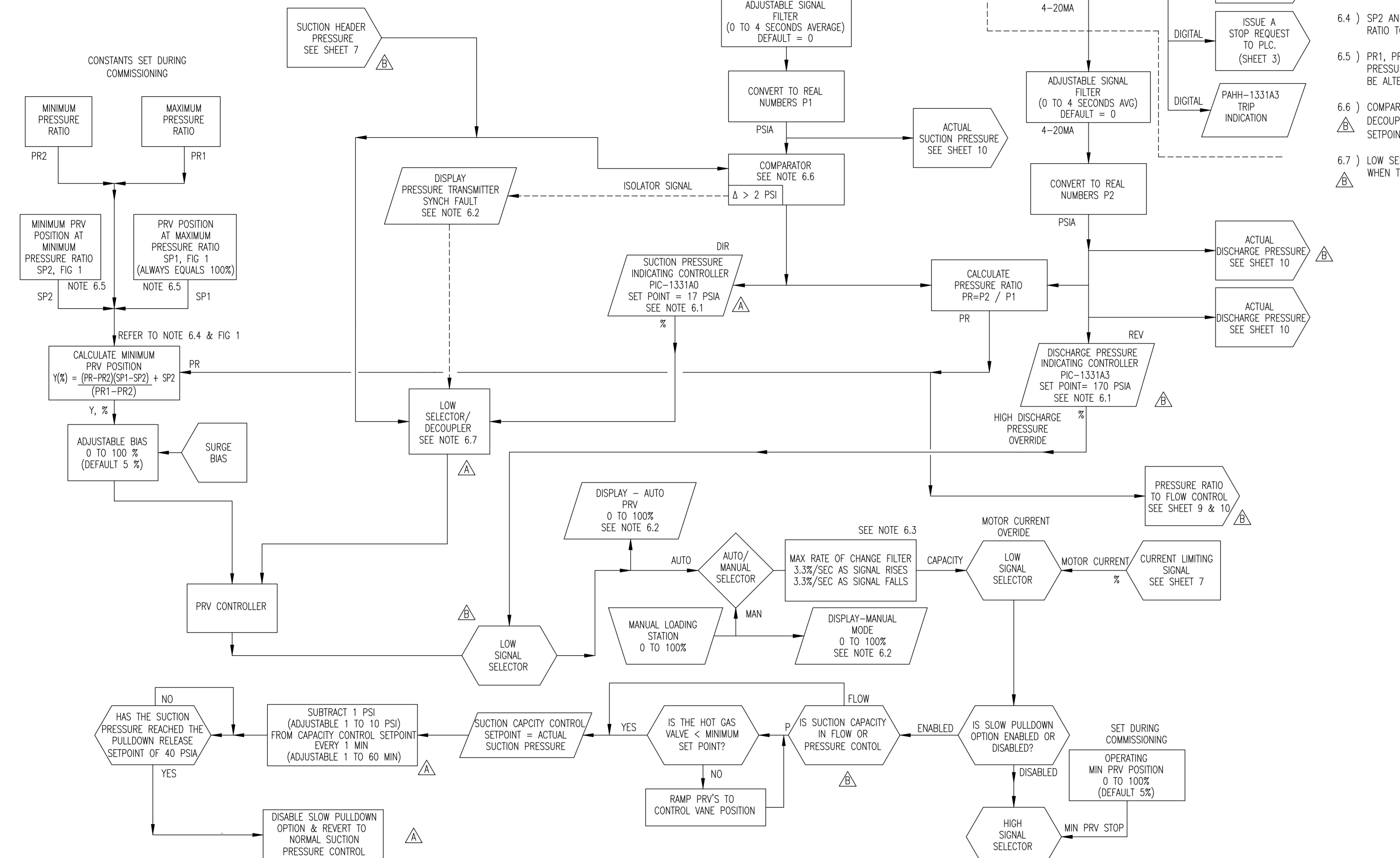
ALL SHEETS ARE THE SAME REVISION STATUS

FIELD INPUTS

CUSTOMER HAS GUARANTEED THAT SYSTEM CONTROL (BY OTHER) WILL BE MANIPULATED TO PREVENT ANY JCI/YORK COMPRESSORS FROM PART LOAD OPERATION FOR MORE THAN BRIEF AND INFREQUENT EXCURSIONS.

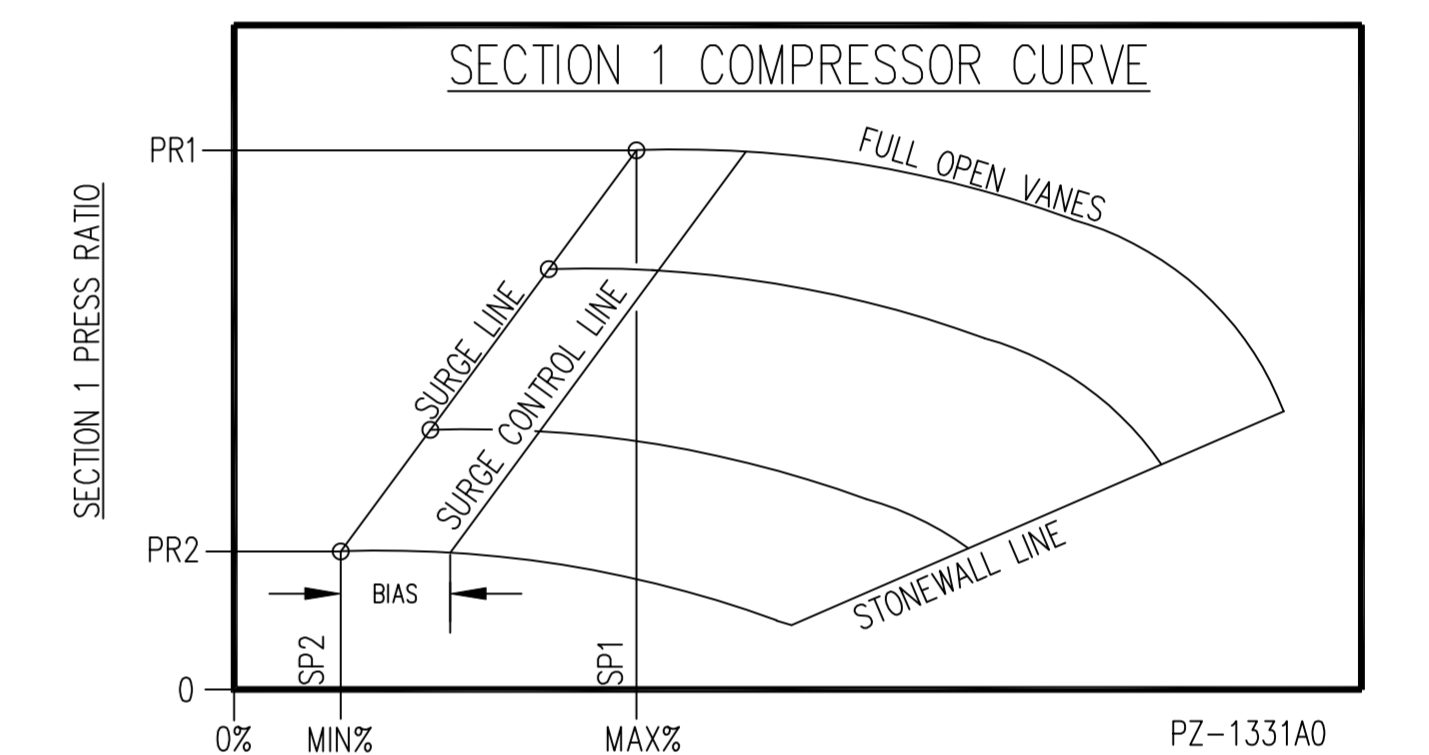
PANEL DEVICES

CONTROLLER LOGIC



NOTES

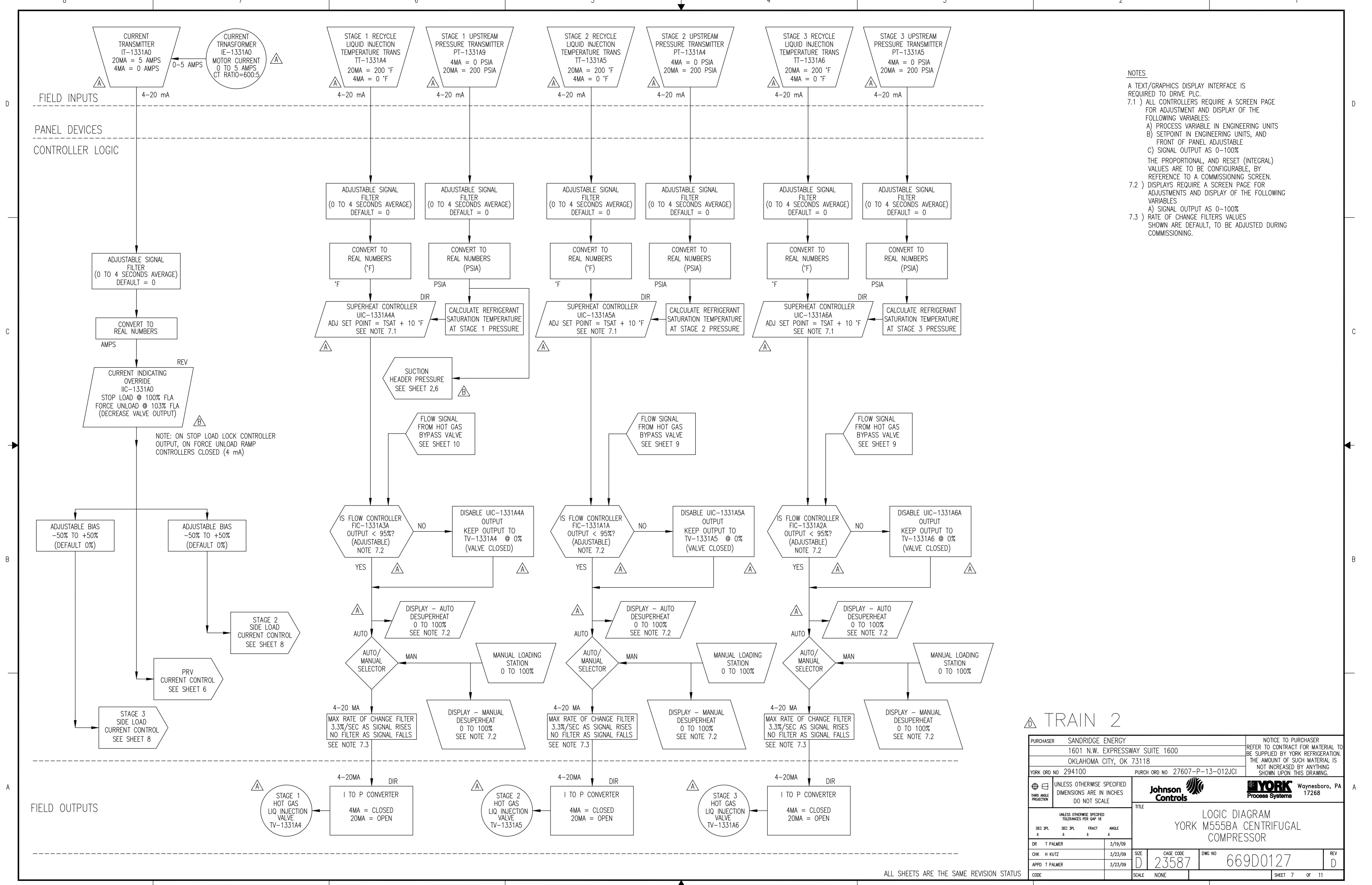
- A TEXT/GRAPHICS DISPLAY INTERFACE IS REQUIRED TO DRIVE PLC
- 6.1) ALL CONTROLLERS REQUIRE A SCREEN PAGE FOR ADJUSTMENT AND DISPLAY OF THE FOLLOWING VARIABLES:
 - A) PROCESS VARIABLE IN ENGINEERING UNITS
 - B) SETPOINT IN ENGINEERING UNITS, AND FRONT OF PANEL ADJUSTABLE
 - C) SIGNAL OUTPUT AS 0-100%
 THE PROPORTIONAL, AND RESET (INTEGRAL) VALUES ARE TO BE CONFIGURABLE, BY REFERENCE TO THE COMMISSIONING SCREEN
- 6.2) DISPLAYS REQUIRE A SCREEN PAGE FOR ADJUSTMENTS AND DISPLAY OF THE FOLLOWING VARIABLES:
 - A) SIGNAL OUTPUT AS 0-100%
- 6.3) RATE OF CHANGE FILTERS VALUES SHOWN ARE DEFAULT, TO BE ADJUSTED DURING COMMISSIONING.
- 6.4) SP2 AND Y % IN TERMS OF % OPEN. USE FULL OPEN PRESSURE RATIO AND MINIMUM OPERATING PRESSURE RATIO TO DEFINE THE CONTROL LINE. SP1 = 100%
- 6.5) PR1, PR2, SP1, AND SP2 ARE PASSWORD ADJUSTABLE, INITIAL FACTORY SETPOINTS ARE USUALLY THE PREDICTED PRESSURE RATIOS AT 100% AND 13% PRV POSITIONS. SETPOINTS ARE ADJUSTABLE AT PASSWORD LEVEL AND MAY BE ALTERED BY THE YORK START-UP TECHNICIAN BASED ON FIELD SURGE TESTING.
- 6.6) COMPARETOR COMPARES LOCAL AND HEADER SUCTION PRESSURE SIGNALS. THE COMPARETOR TRIGGERS THE DECOUPLER IF HEADER PRESSURE SIGNAL DEVIATES FROM THE LOCAL SIGNAL BY MORE THAN SETPOINT (DELTA SETPOINT ADJUSTABLE AT PASSWORD LEVEL, RANGE 0-10 PSI)
- 6.7) LOW SELECTOR/DECOUPLER SELECTS THE HEADER PRESSURE SIGNAL UNLESS TRIGGERED BY THE COMPARETOR, WHEN TRIGGERED THE DECOUPLER SELECTS THE LOCAL CONTROL SIGNAL.



TRAIN 2

PURCHASER SANDRIDGE ENERGY 1601 N.W. EXPRESSWAY SUITE 1600 OKLAHOMA CITY, OK 73118		NOTICE TO PURCHASER REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
YORK ORD NO 294100		PURCH ORD NO 27607-P-13-012JCI	
UNLESS OTHERWISE SPECIFIED TOLERANCES PER G&P 18 THIRD ANGLE PROJECTION			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE		TITLE LOGIC DIAGRAM YORK M555BA CENTRIFUGAL COMPRESSOR	
DR T PALMER	3/19/09	SIZE D	CAGE CODE 23587
CHK H KUTZ	3/23/09	DWG NO 669D0127	REV D
APPD T PALMER	3/23/09	SCALE NONE	SHEET 6 OF 11

CONTROLLER OPERATION MODE INDICATOR:
 DISPLAY THE FOLLOWING CONTROL INDICATION WHENEVER THE FOLLOWING IS TRUE:
 MANUAL INDICATION - WHENEVER THE AUTO / MAN SWITCH IS SET TO MAN
 PRESSURE CONTROL INDICATION - IF P>M & P<C
 MINIMUM PRV POSITION INDICATION - IF M>P & M<C
 MOTOR CURRENT CONTROL INDICATION - IF C<P & C<M
 WHERE
 P = PRESSURE CONTROLLER OUTPUT SIGNAL
 M = MINIMUM PRV POSITION SIGNAL
 C = MOTOR CURRENT CONTROLLER OUTPUT SIGNAL

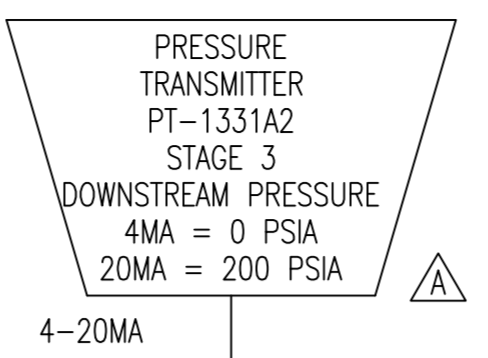
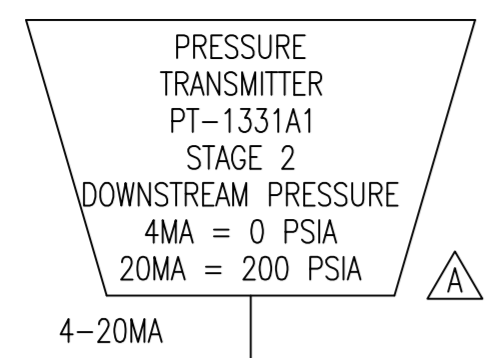


TRAIN 2

PURCHASER SANDRIDGE ENERGY		NOTICE TO PURCHASER	
1601 N.W. EXPRESSWAY SUITE 1600		REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
OKLAHOMA CITY, OK 73118		YORK Process Systems	
YORK ORD NO 294100		PURCH ORD NO 27607-P-13-012JCI	
UNLESS OTHERWISE SPECIFIED TOLERANCES PER QWP 18		Waynesboro, PA 17268	
THIRD ANGLE PROJECTION		DO NOT SCALE	
TITLE LOGIC DIAGRAM YORK M555BA CENTRIFUGAL COMPRESSOR			
DR T PALMER	3/19/09	SIZE D	CAGE CODE 23587
CHK H KUTZ	3/23/09	DWG NO 669D0127	REV D
APPD T PALMER	3/23/09	SCALE NONE	SHEET 7 OF 11

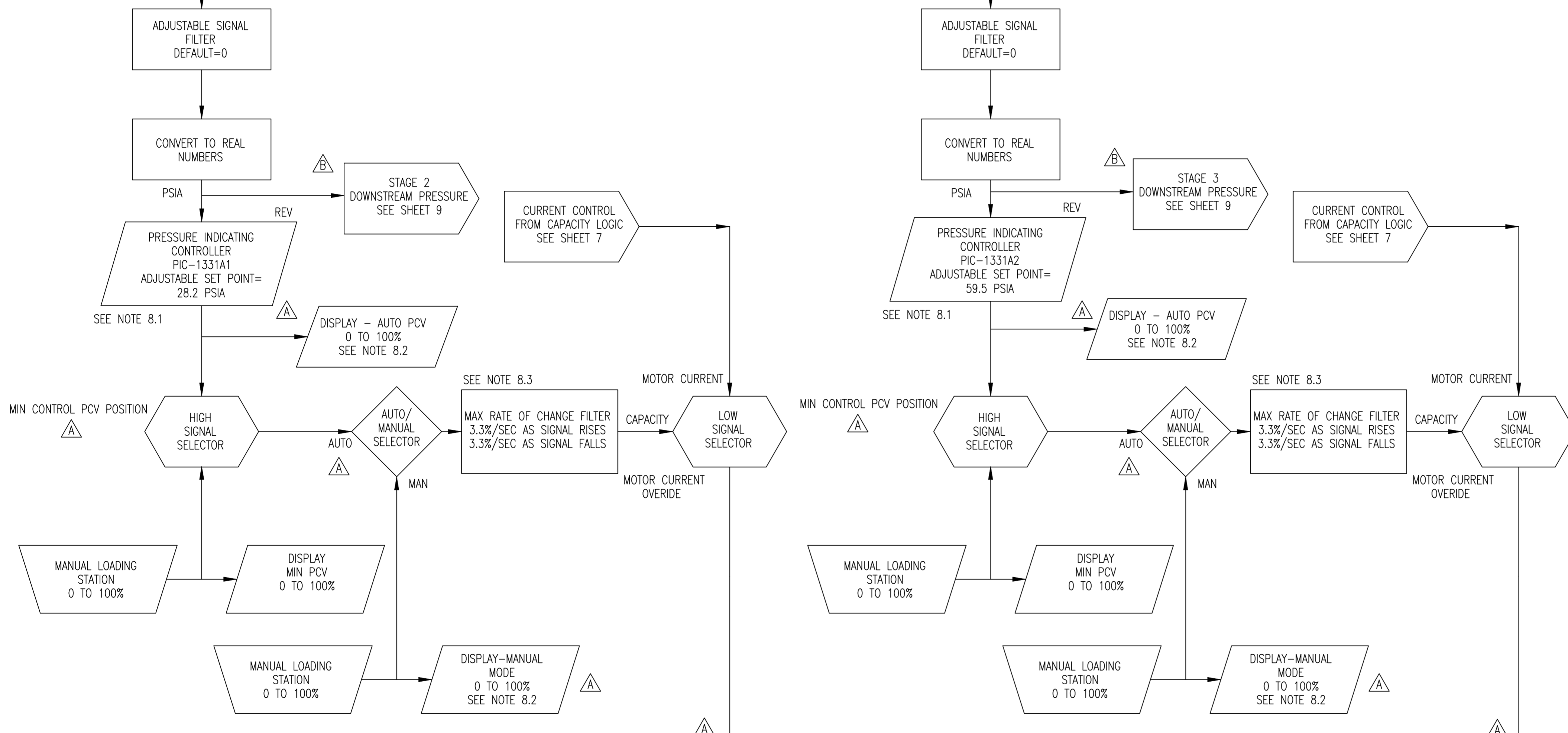
ALL SHEETS ARE THE SAME REVISION STATUS

FIELD INPUTS



PANEL DEVICES

CONTROLLER LOGIC

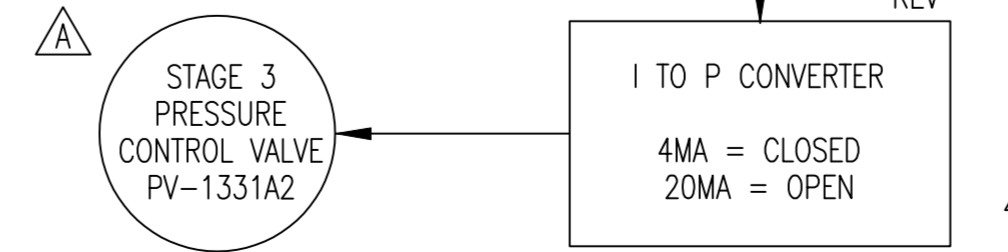
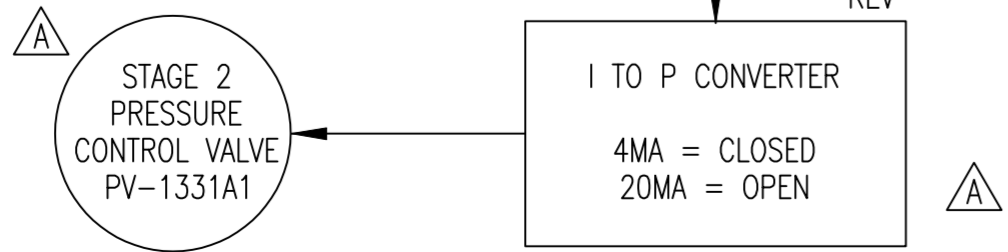


CONTROLLER OPERATION MODE INDICATOR:
 DISPLAY THE FOLLOWING CONTROL INDICATION WHENEVER THE FOLLOWING IS TRUE
 MANUAL INDICATION - WHENEVER THE AUTO / MAN SWITCH IS SET TO MAN
 PRESSURE CONTROL INDICATION - IF P>M & P<C
 MINIMUM PCV POSITION INDICATION - IF M>P & M<C
 MOTOR CURRENT CONTROL INDICATION - IF C<P & C<M
 WHERE
 P = PRESSURE CONTROLLER OUTPUT SIGNAL
 M = MINIMUM PCV POSITION SIGNAL
 C = MOTOR CURRENT CONTROLLER OUTPUT SIGNAL

SET DURING COMMISSIONING
 OPERATING MIN PCV POSITION
 0 TO 100%
 (DEFAULT 5%)

SET DURING COMMISSIONING
 OPERATING MIN PCV POSITION
 0 TO 100%
 (DEFAULT 5%)

FIELD OUTPUTS

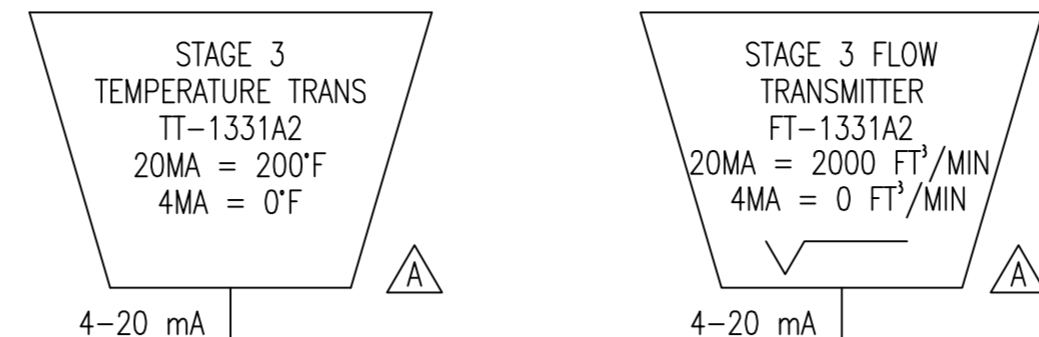
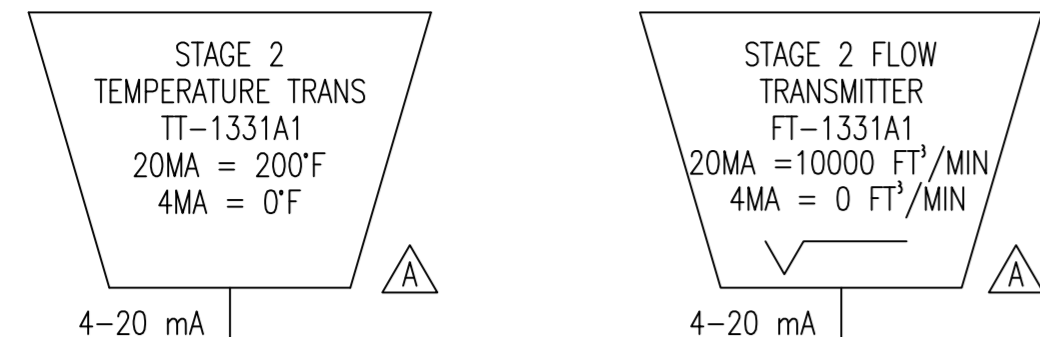


- NOTES
- 8.1) ALL CONTROLLERS REQUIRE A TEXT/GRAPHICS PAGE FOR ADJUSTMENT AND DISPLAY OF THE FOLLOWING VARIABLES:
 A) PROCESS VARIABLE IN ENGINEERING UNITS
 B) SETPOINT IN ENGINEERING UNITS, AND FRONT OF PANEL ADJUSTABLE
 C) SIGNAL OUTPUT AS 0-100%
 THE PROPORTIONAL, AND RESET (INTEGRAL) VALUES ARE TO BE CONFIGURABLE, BY REFERENCE TO A COMMISSIONING SCREEN.
 - 8.2) DISPLAYS REQUIRE A TEXT/GRAPHICS PAGE FOR ADJUSTMENTS AND DISPLAY OF THE FOLLOWING VARIABLES:
 A) SIGNAL OUTPUT AS 0-100%
 - 8.3) RATE OF CHANGE FILTERS VALUES SHOWN ARE DEFAULT, TO BE ADJUSTED DURING COMMISSIONING.

TRAIN 2

PURCHASER SANDRIDGE ENERGY		NOTICE TO PURCHASER										
1601 N.W. EXPRESSWAY SUITE 1600		REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.										
OKLAHOMA CITY, OK 73118		YORK Process Systems Waynesboro, PA 17268										
YORK ORD NO 294100	PURCH ORD NO 27607-P-13-012JCI	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE										
<table border="1"> <tr> <td>DR</td> <td>T PALMER</td> <td>3/19/09</td> </tr> <tr> <td>CHK</td> <td>H KUTZ</td> <td>3/23/09</td> </tr> <tr> <td>APPD</td> <td>T PALMER</td> <td>3/23/09</td> </tr> </table>				DR	T PALMER	3/19/09	CHK	H KUTZ	3/23/09	APPD	T PALMER	3/23/09
DR	T PALMER	3/19/09										
CHK	H KUTZ	3/23/09										
APPD	T PALMER	3/23/09										
TITLE		LOGIC DIAGRAM	REV D									
YORK M555BA CENTRIFUGAL COMPRESSOR		SIZE D	CAGE CODE 23587									
UNLESS OTHERWISE SPECIFIED TOLERANCES PER ASME Y14.5		DWG NO 669D0127	SCALE NONE									
SHEET 8 OF 11		ALL SHEETS ARE THE SAME REVISION STATUS										

FIELD INPUTS



PANEL DEVICES

CONTROLLER LOGIC

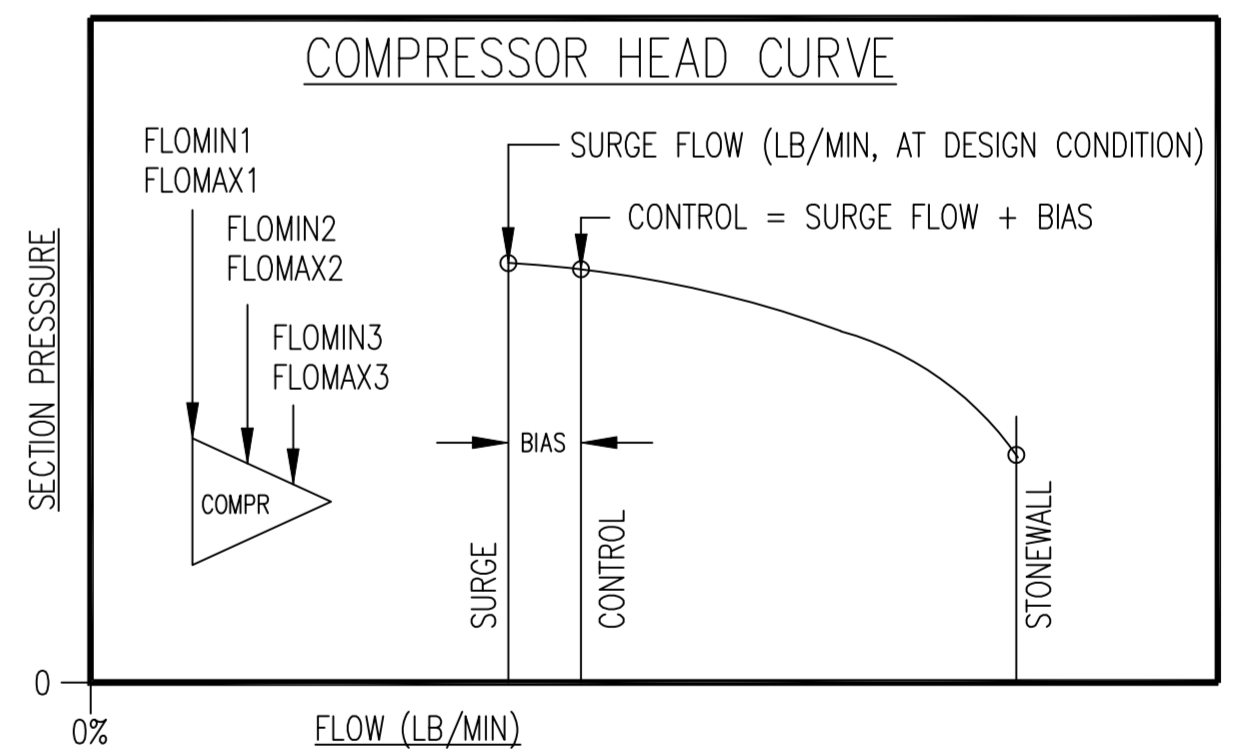
NOTES

- A TEXT/GRAPHICS DISPLAY INTERFACE IS REQUIRED TO DRIVE PLC.
9.1) ALL CONTROLLERS REQUIRE A SCREEN PAGE FOR ADJUSTMENT AND DISPLAY OF THE FOLLOWING VARIABLES:
A) PROCESS VARIABLE IN ENGINEERING UNITS
B) SETPOINT IN ENGINEERING UNITS, AND FRONT OF PANEL ADJUSTABLE
C) SIGNAL OUTPUT AS 0-100%
THE PROPORTIONAL, AND RESET (INTEGRAL) VALUES ARE TO BE CONFIGURABLE, BY REFERENCE TO A COMMISSIONING SCREEN.
9.2) DISPLAYS REQUIRE A SCREEN PAGE FOR ADJUSTMENTS AND DISPLAY OF THE FOLLOWING VARIABLES
A) SIGNAL OUTPUT AS 0-100%
9.3) RATE OF CHANGE FILTERS VALUES SHOWN ARE DEFAULT, TO BE ADJUSTED DURING COMMISSIONING.
9.4) PR1, PR2, FLOMAX AND FLOMIN ARE PASSWORD ADJUSTABLE. INITIAL FACTORY SETPOINTS ARE USUALLY THE PREDICTED PRESSURE RATIOS AT 100% AND 13% PRV POSITIONS. FLOMAX IS FACTORY SET AT THE SURGE POINT WITH FULL OPEN VANES AND FLOMIN IS SET AT THE SURGE POINT WITH THE VANES AT APPROXIMATELY 13% OPEN (SEE FIGURE 2). SETPOINTS ARE ADJUSTABLE AT PASSWORD LEVEL AND MAY BE ALTERED BY THE YORK START-UP TECHNICIAN BASED ON FIELD SURGE TESTING. SETPOINT CALCULATED BY FUNCTION PASSED TO FIC.

Table with 2 columns: INITIAL SET VALUES and values for PR1, PR2, FLOMAX, FLOMIN for FV-1331A1 and FV-1331A2.

VALUES ARE SUBJECT TO CHANGE DURING COMMISSIONING

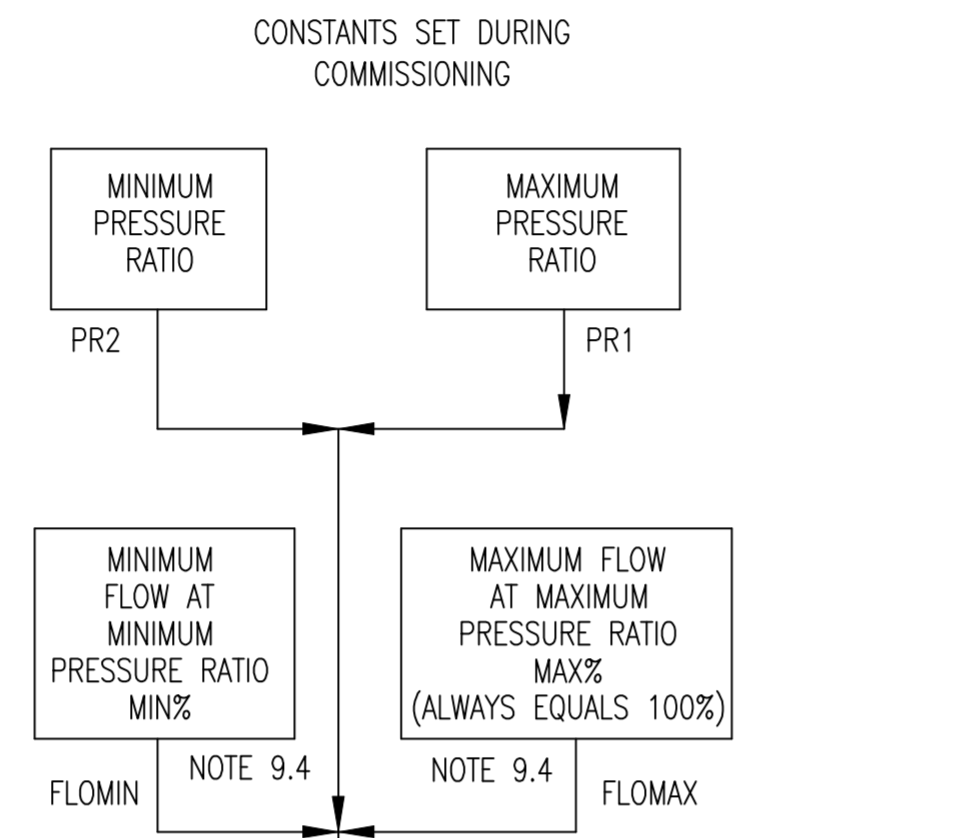
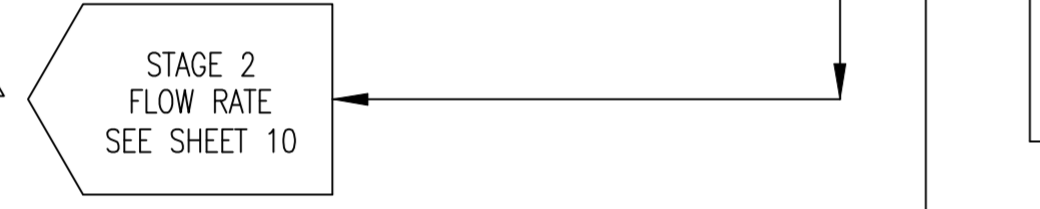
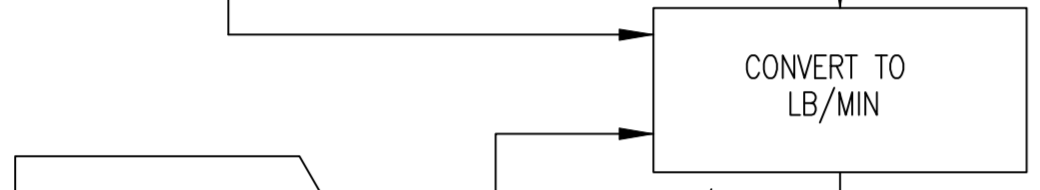
FIGURE 2



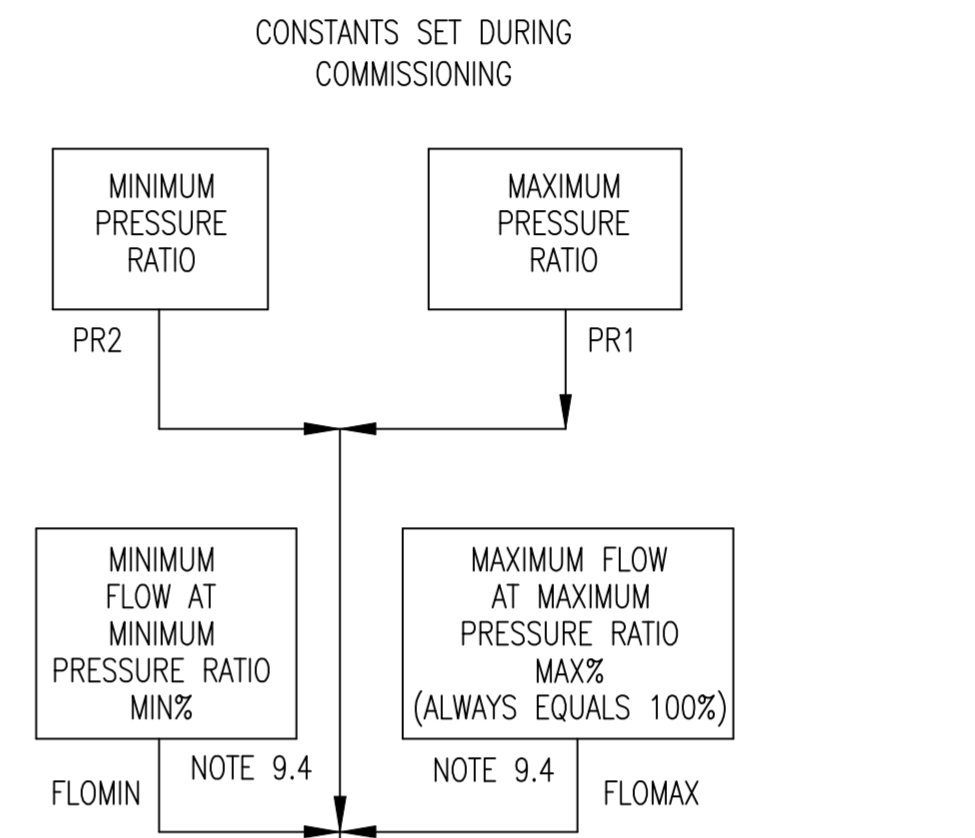
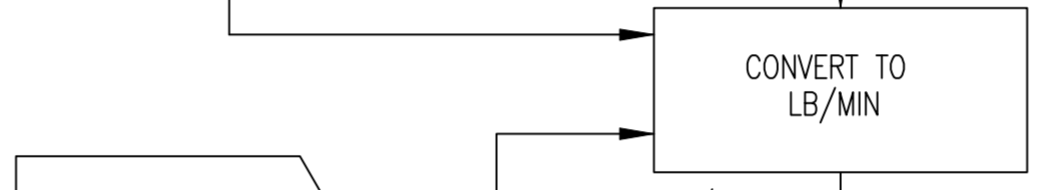
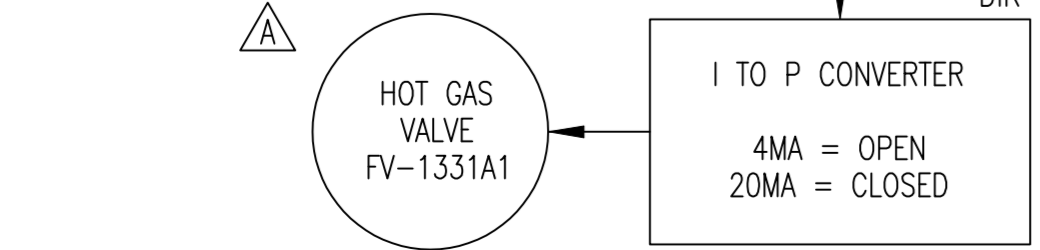
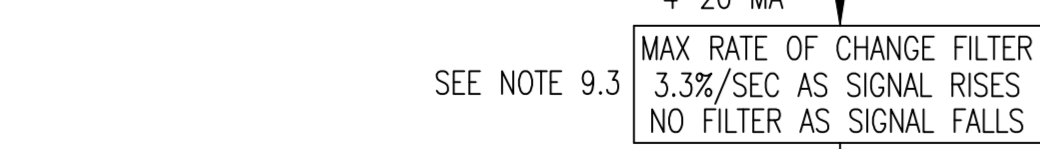
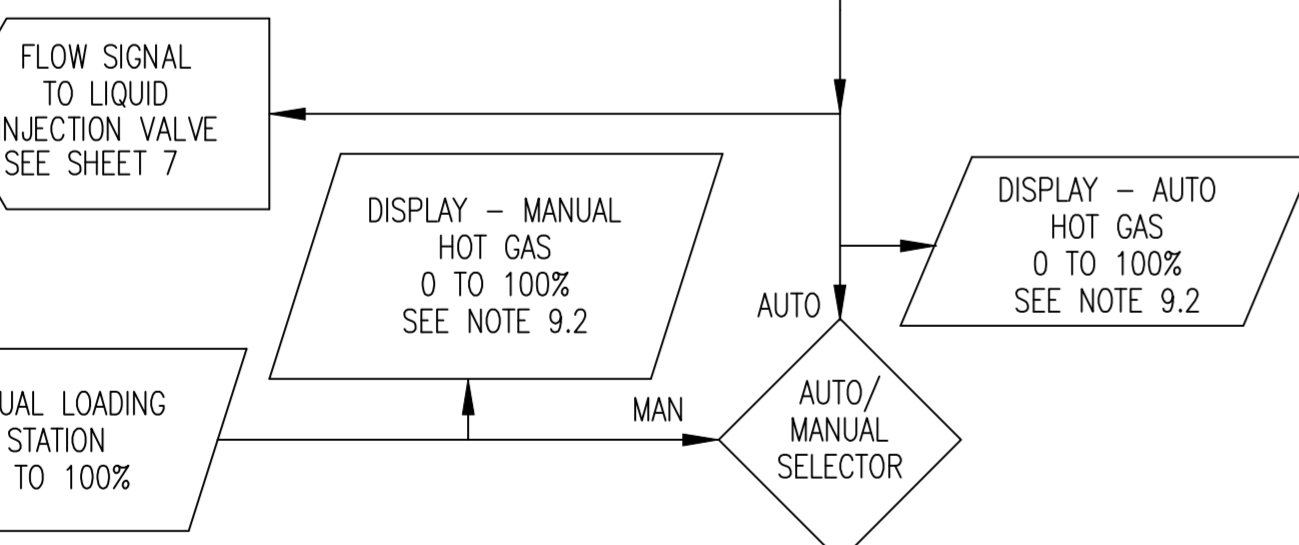
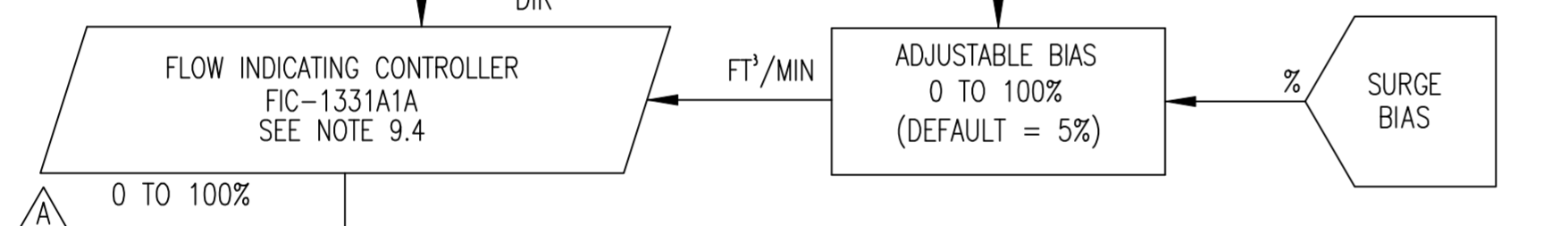
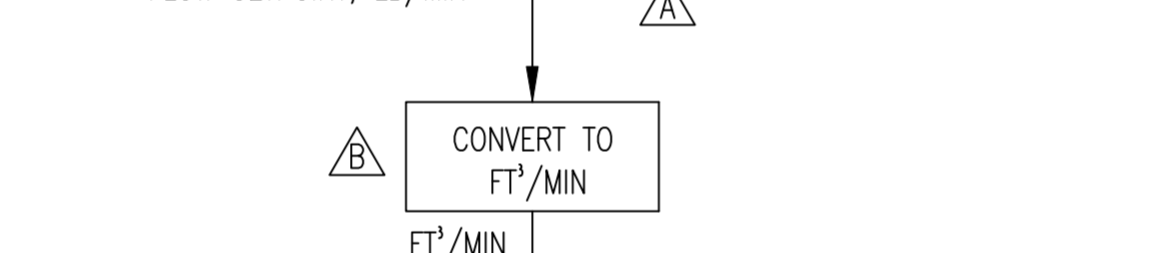
CALC IN LB/MIN
FLOMAX2 = SURGE FLOW - FLOMAX1
FLOMIN2 = [FLOMIN1 / FLOMAX1] X SURGE FLOW - FLOMIN1
FLOMAX3 = SURGE FLOW - FLOMAX2
FLOMIN3 = [FLOMIN1 / FLOMAX1] X SURGE FLOW - FLOMIN2

TRAIN 2

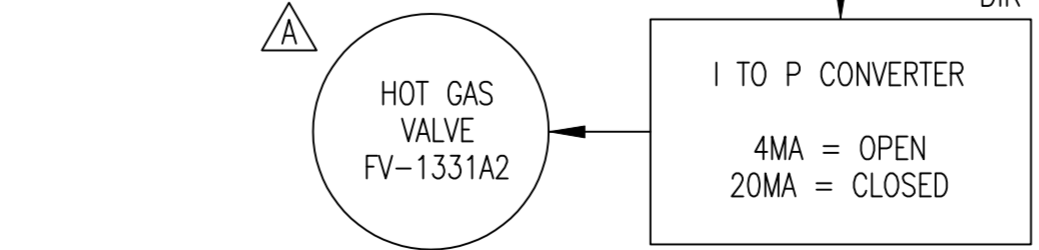
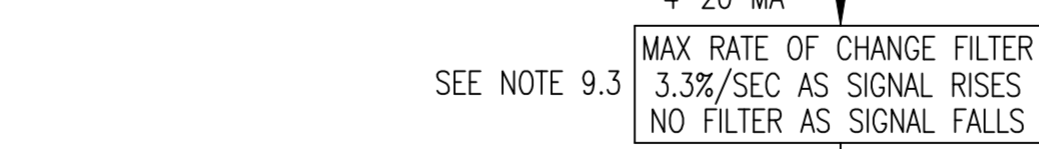
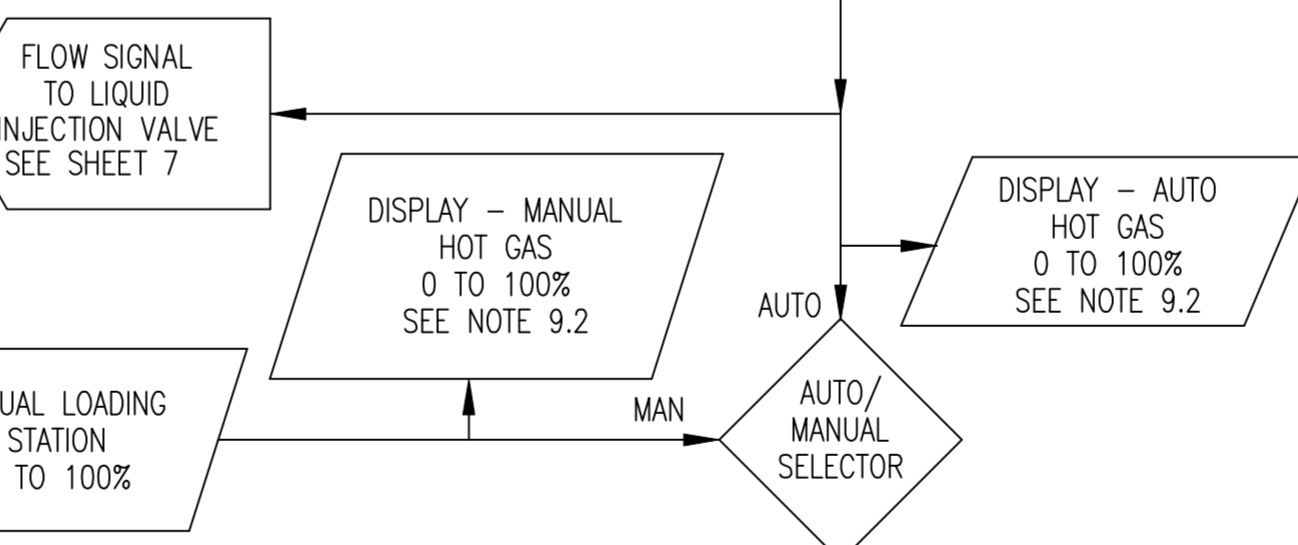
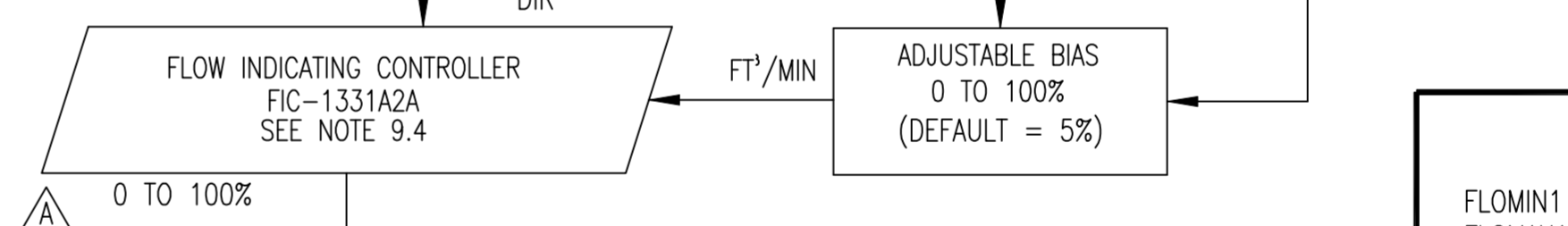
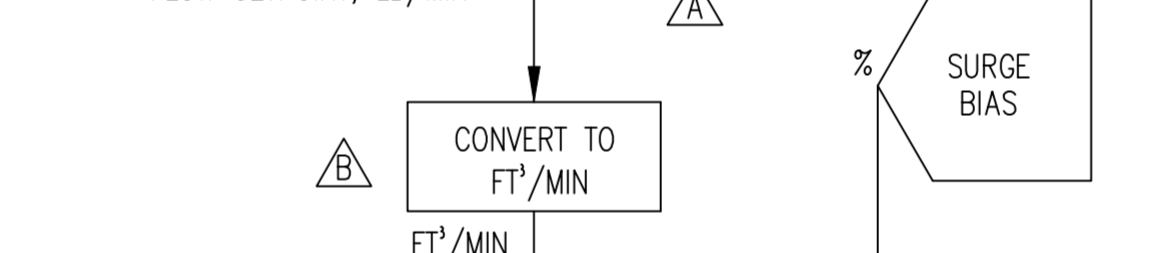
Project information block including Purchaser (SANDRIDGE ENERGY), Johnson Controls logo, York Process Systems logo, and drawing details (TITLE: LOGIC DIAGRAM YORK M555BA CENTRIFUGAL COMPRESSOR).



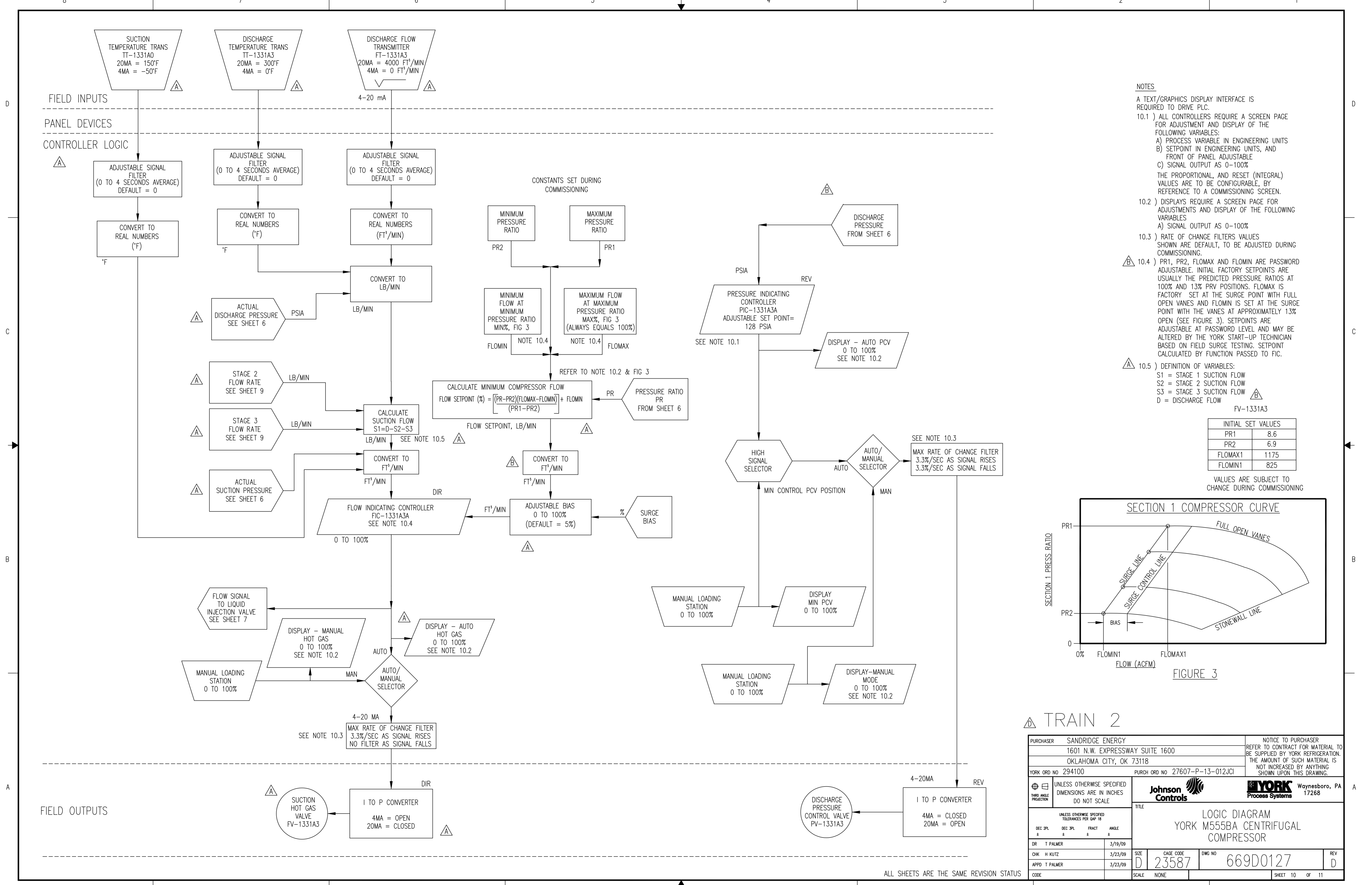
CALCULATE MINIMUM COMPRESSOR FLOW FLOW SETPOINT (%) = [(PR-PR2)(FLOMAX-FLOMIN)] / (PR1-PR2) + FLOMIN



CALCULATE MINIMUM COMPRESSOR FLOW FLOW SETPOINT (%) = [(PR-PR2)(FLOMAX-FLOMIN)] / (PR1-PR2) + FLOMIN



FIELD OUTPUTS

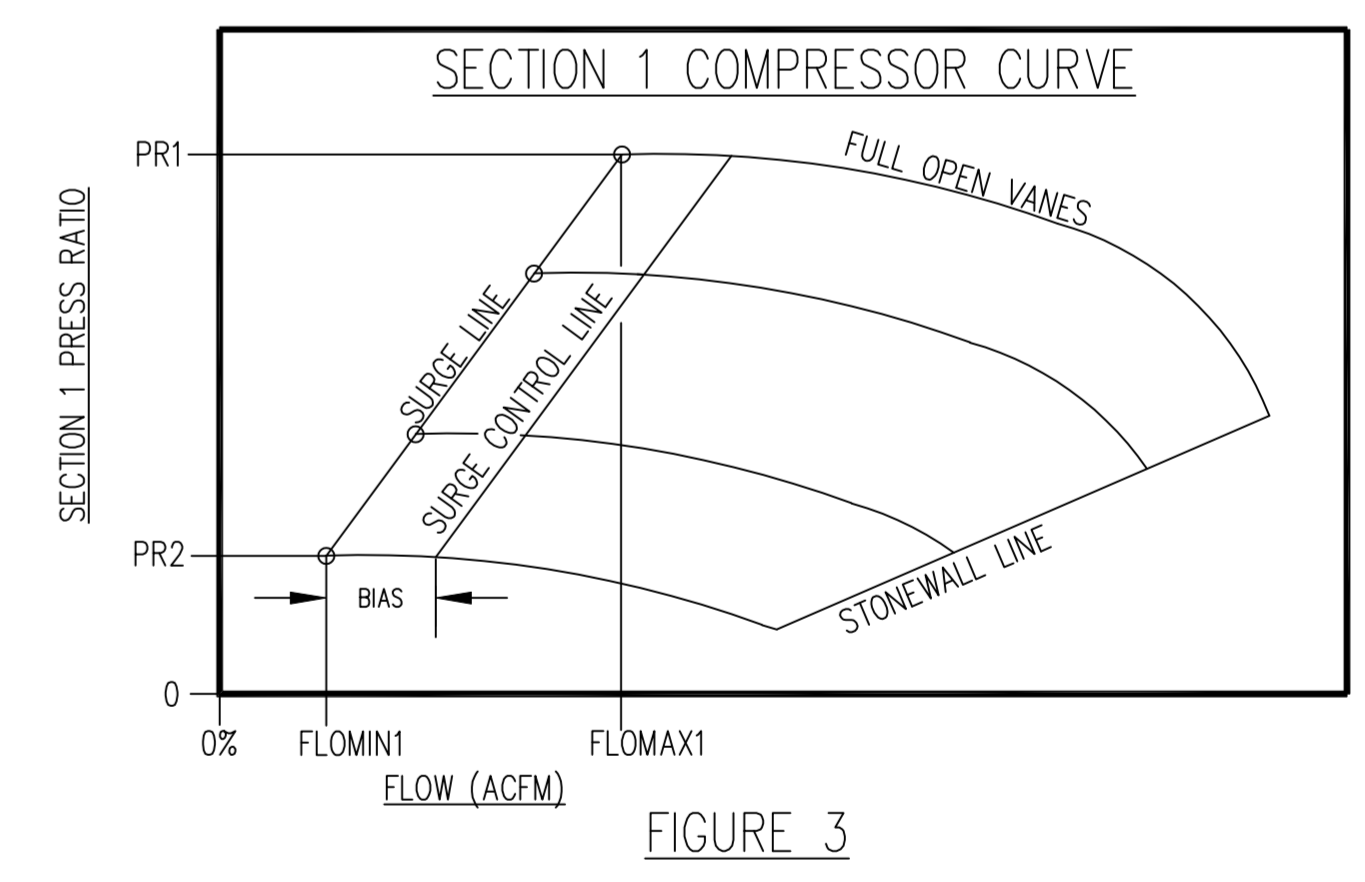


- NOTES**
- A TEXT/GRAPHICS DISPLAY INTERFACE IS REQUIRED TO DRIVE PLC.
- 10.1) ALL CONTROLLERS REQUIRE A SCREEN PAGE FOR ADJUSTMENT AND DISPLAY OF THE FOLLOWING VARIABLES:
- A) PROCESS VARIABLE IN ENGINEERING UNITS
 - B) SETPOINT IN ENGINEERING UNITS, AND FRONT OF PANEL ADJUSTABLE
 - C) SIGNAL OUTPUT AS 0-100%
- THE PROPORTIONAL, AND RESET (INTEGRAL) VALUES ARE TO BE CONFIGURABLE, BY REFERENCE TO A COMMISSIONING SCREEN.
- 10.2) DISPLAYS REQUIRE A SCREEN PAGE FOR ADJUSTMENTS AND DISPLAY OF THE FOLLOWING VARIABLES
- A) SIGNAL OUTPUT AS 0-100%
- 10.3) RATE OF CHANGE FILTERS VALUES SHOWN ARE DEFAULT, TO BE ADJUSTED DURING COMMISSIONING.
- 10.4) PR1, PR2, FLOMAX AND FLOMIN ARE PASSWORD ADJUSTABLE. INITIAL FACTORY SETPOINTS ARE USUALLY THE PREDICTED PRESSURE RATIOS AT 100% AND 13% PRV POSITIONS. FLOMAX IS FACTORY SET AT THE SURGE POINT WITH FULL OPEN VANES AND FLOMIN IS SET AT THE SURGE POINT WITH THE VANES AT APPROXIMATELY 13% OPEN (SEE FIGURE 3). SETPOINTS ARE ADJUSTABLE AT PASSWORD LEVEL AND MAY BE ALTERED BY THE YORK START-UP TECHNICIAN BASED ON FIELD SURGE TESTING. SETPOINT CALCULATED BY FUNCTION PASSED TO FIC.
- 10.5) DEFINITION OF VARIABLES:
- S1 = STAGE 1 SUCTION FLOW
 - S2 = STAGE 2 SUCTION FLOW
 - S3 = STAGE 3 SUCTION FLOW
 - D = DISCHARGE FLOW

FV-1331A3

INITIAL SET VALUES	
PR1	8.6
PR2	6.9
FLOMAX1	1175
FLOMIN1	825

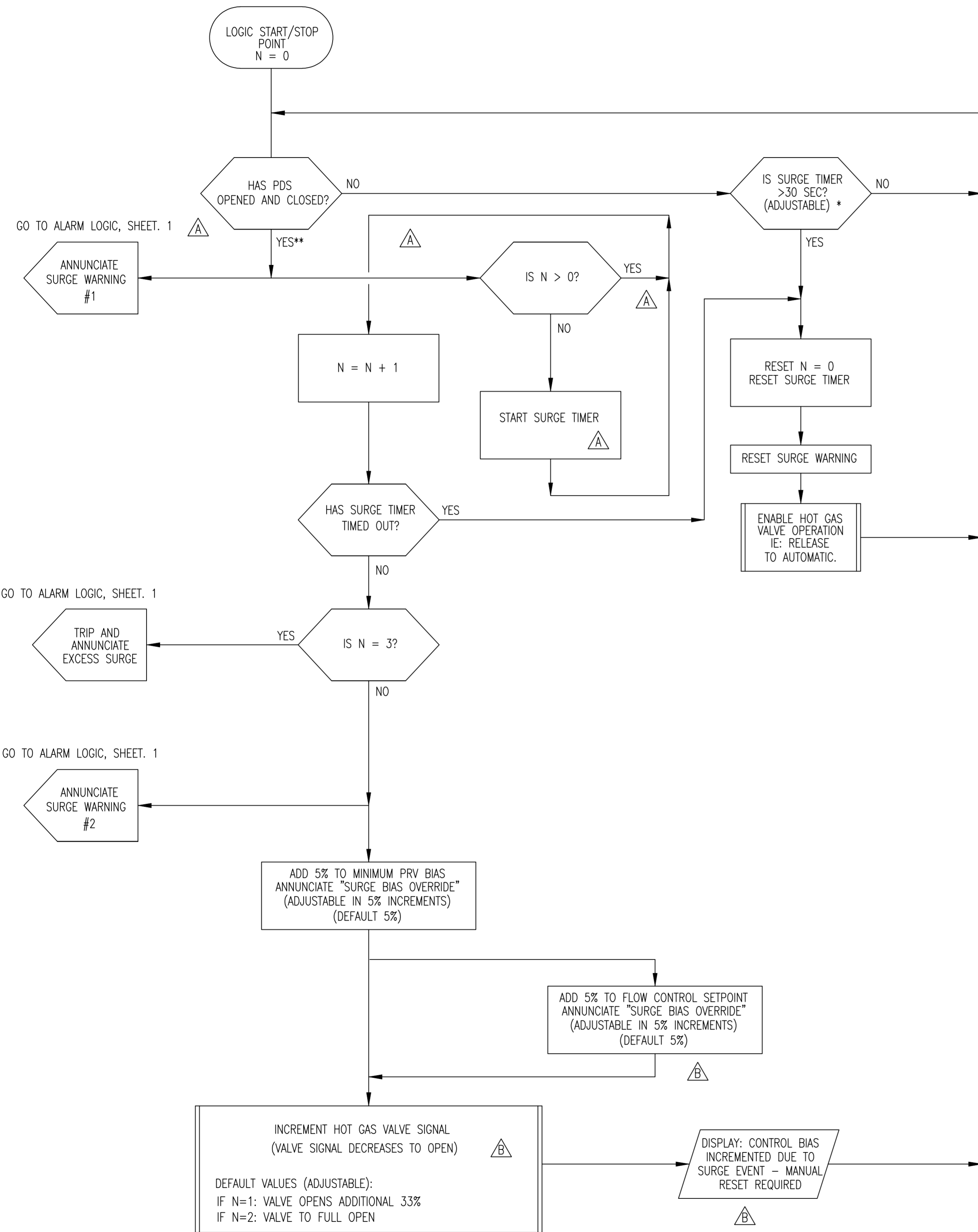
VALUES ARE SUBJECT TO CHANGE DURING COMMISSIONING



TRAIN 2

PURCHASER SANDRIDGE ENERGY		NOTICE TO PURCHASER	
1601 N.W. EXPRESSWAY SUITE 1600		REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
OKLAHOMA CITY, OK 73118		YORK Process Systems Waynesboro, PA 17268	
YORK ORD NO 294100	PURCH ORD NO 27607-P-13-012JCI	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE		UNLESS OTHERWISE SPECIFIED TOLERANCES PER QWP 18	
DR T PALMER	3/19/09	DEC 2PL ±	DEC 3PL ±
CHK H KUITZ	3/23/09	FRACT ±	ANGLE ±
APPD T PALMER	3/23/09	SIZE D	CAGE CODE 23587
CODE	SCALE NONE	DWG NO 669D0127	REV D
SHEET 10 OF 11		TITLE LOGIC DIAGRAM YORK M555BA CENTRIFUGAL COMPRESSOR	

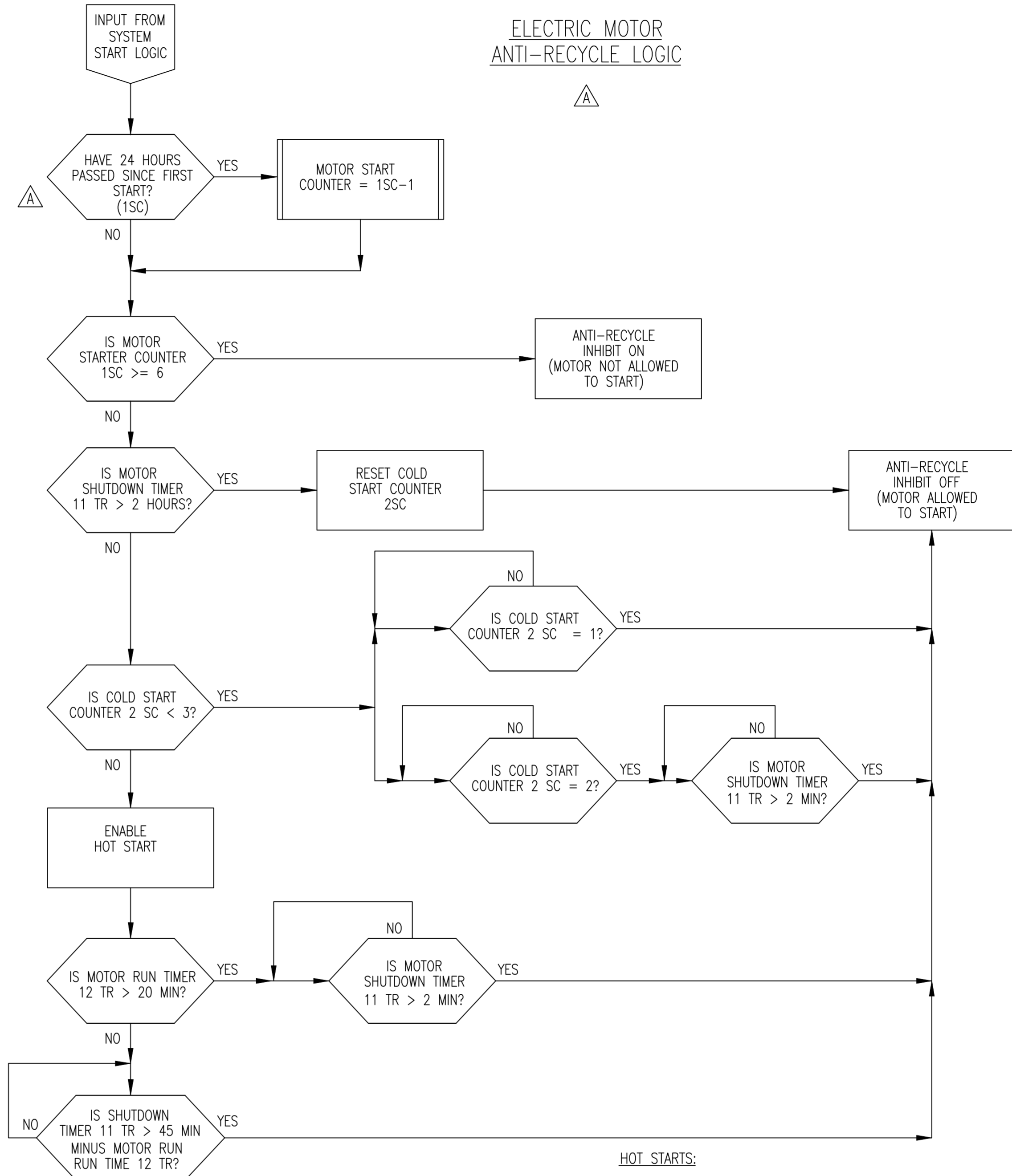
SURGE PROTECTION



* SUBJECT TO EVALUATION AND CHANGE DURING COMMISSIONING BY YORK START-UP TECHNICIAN.

** STATE MUST COMPLETELY CYCLE. SWITCH MUST OPEN AND CLOSE AGAIN FOR "YES" CONDITION. FOR TRANSMITTER, PRESSURE MUST TRANSIT FROM LESS THAN TO GREATER THAN AND BACK TO LESS THAN SETPOINT. SCALE TRANSMITTER -50 TO +250 PSI, SET AT +5 PSI AND SHUT DOWN ON OUT OF RANGE.

ELECTRIC MOTOR ANTI-RECYCLE LOGIC



ANTI-RECYCLE OPERATION:

IF THE MOTOR HAS BEEN SHUT DOWN FOR 2 HOURS, THE COOL DOWN (ANTI-RECYCLE) TIME WILL BE 0 (ZERO) MINUTES FOR THE FIRST COLD START AND 2 MINUTES FOR THE SECOND COLD START. ANY ADDITIONAL STARTS WOULD BE CONSIDERED HOT STARTS.

HOT STARTS:

IF THE MOTOR HAS BEEN RUNNING LESS THAN 20 MINUTES, THE COOL DOWN TIME WILL BE THE DIFFERENCE BETWEEN 45 MINUTES AND THE HOT MOTOR RUNNING TIME SINCE THE LAST START. FOR EXAMPLE, IF THE MOTOR HAS RUN FOR 5 MINUTES SINCE THE LAST START, THE COOL DOWN TIME = 45 - 5 = 40 MINUTES.

IF THE MOTOR HAS BEEN RUNNING 20 MINUTES OR LONGER, THE COOL DOWN TIME WILL BE 2 MINUTES.

NOTICE THAT ONLY 6 STARTS ARE PERMITTED IN ANY 24 HOUR PERIOD.

EACH START WILL BE RESET 24 HOURS AFTER THE START WAS INITIATED, THUS ALLOWING ANOTHER RESTART AND REDEFINING THE BEGINNING OF THE 24 HOUR PERIOD.

TRAIN 2

PURCHASER SANDRIDGE ENERGY 1601 N.W. EXPRESSWAY SUITE 1600 OKLAHOMA CITY, OK 73118		NOTICE TO PURCHASER REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY YORK REFRIGERATION. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.	
YORK ORD NO 294100		PURCH ORD NO 27607-P-13-012JCI	
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APPD T PALMER	3/23/09	SCALE NONE	SHEET 11 OF 11

ALL SHEETS ARE THE SAME REVISION STATUS